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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,561	06/29/2001	Edward J. Kroliczek	2288-022	7910

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EXAMINER

PATEL, NIHIR B

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 12/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,561

Applicant(s)

KROLICZEK ET AL.

Examiner

Nihir Patel

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3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The specification does not state how the heat sink is connected to the condenser.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the one or more heat sinks must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Figures 1-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to claim 1, there is insufficient antecedent basis for limitations “the one or more heat sinks”, “the secondary liquid port”, “the secondary vapor port”, and “the primary vapor ports”.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Van Oost US Patent No. 5,944,092. Van Oost discloses a capillary pumped heat transfer loop that comprises a primary wick 5 (see figure 7 and col. 4, lines 25-30) having a core; a primary liquid port 10 (see figure 7) feeding into the core via a liquid bayonet return; a secondary liquid port 4 (see figure 7); a secondary wick 18 (see figure 7 and col. 5, lines 15-20) providing a flow path between the secondary liquid port 4 (see figure 7) and the core; a primary vapor port 6 (see figure 7) coupled

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to receive vapor exiting the primary wick 5 (see figure 7); and a secondary vapor port coupled to the core (see figure 7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teachings of Van Oost US Patent No. 5,944,092 and Alario et al. US Patent No. 5,303,768.

Van Oost discloses the applicant's invention as claimed with the exception of providing one or more condensers disposed in thermal communication with corresponding one of the one or more heat sinks.

Alario discloses a capillary pump evaporator that does provide one or more condensers 18 (see figure 1) disposed in thermal communication with corresponding one of the one or more heat sinks (see figure 1 and col. 3, lines 18-30). Therefore it would be obvious to modify Van Oost's invention by providing one or more condensers disposed in thermal communication with corresponding one of the one or more heat sinks in order to cool the liquid quicker.

Claims 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teachings of Van Oost US Patent No. 5,944,092 and Baker US Patent No. 5,816,313.

Van Oost discloses the applicant's invention as claimed with the exception of providing a back pressure regulator that is disposed in the vapor lines to prevent migration of liquid into vapor spaces of the system.

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Baker discloses a pump, and earth-testable spacecraft capillary heat transport loop using augmentation pump and check valves that does provide back pressure regulator 20 (see figures 1a and 1b) that is disposed in the vapor lines to prevent migration of liquid into vapor spaces of the system. Therefore it would be obvious to modify Van Oost's invention by providing a back pressure regulator that is disposed in the vapor lines to prevent migration of liquid into vapor spaces of the system in order for the system to operate effectively.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over combined teachings of Van Oost US Patent No. 5,944,092, Baker US Patent No. 5,816,313, and Basiulis US Patent No. 4,862,708.

Van Oost and Baker disclose the applicant's invention as claimed with the exception of providing one or more capillary flow regulators connected to a liquid output line of a corresponding one of the one or more condensers and being disposed between the liquid return line and its respective one of the one or more condensers.

Basiulis discloses an osmotic thermal engine that does provide one or more capillary flow regulators 38 (see figure 1 and col. 4, lines 60-63) connected to a liquid output line of a corresponding one of the one or more condensers and being disposed between the liquid return line and its respective one of the one or more condensers. Therefore it would be obvious to modify Van Oost's and Baker's inventions by providing one or more capillary flow regulators connected to a liquid output line of a corresponding one of the one or more condensers and being disposed between the liquid return line and its respective one of the one or more condensers in order for the system to operate effectively.

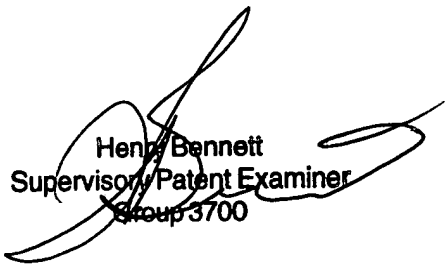
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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
December 17, 2002



Henry Bennett
Supervisory Patent Examiner
Group 3700